

PCN Number:	20210413000.1	PCN Date:	Apr 14, 2021
Title:	Qualification of new Fab site (MIHO8) using qualified Process Technology, Die Revision, Datasheet update and additional Assembly BOM options for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Jul 14, 2021	Estimated Sample Availability:	Date provided at sample request.
Change Type:			
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process
<input checked="" type="checkbox"/>	Design	<input checked="" type="checkbox"/>	Electrical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials
<input type="checkbox"/>		<input type="checkbox"/>	Part number change

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of a new fab & process technology (MIHO8, 3370A07SX3) and Assembly BOM options for selected devices as listed below in the product affected section.

Current Fab Site			New Fab Site		
Fab Site	Process	Wafer Diameter	Fab Site	Process	Wafer Diameter
DL-LIN	50C40	200 mm	MIHO8	3370A07SX3	200 mm

The die was also changed as a result of the process change.

The datasheets will be changing as a result of the above mentioned changes as shown below:

Device Family	Change From:	Change To:
TL16C550C	SLLS177H	SLLS177I

The product datasheet(s) is updated as seen in the change revision history below:



TL16C550C
SLLS177I – MARCH 1994 – REVISED MARCH 2021

Changes from Revision H (January 2006) to Revision I (March 2021)	Page
• Updated the data sheet format.....	1
• Added the <i>Pin Configuration and Functions</i> section.....	3
• Added the <i>Thermal Information</i> table.	7

These changes may be viewed at the datasheet link provided:

<http://www.ti.com/product/TL16C550C>

Construction differences are noted below:

Group 1 MIHO8/Process migration, Datasheet changes, BOM comparison:

	PHI (Current)	PHI (New)
Mount Compound	4042504	4211470
Mold Compound	4207207	4222198

Qual details are provided in the Qual Data Section.

Reason for Change:

These changes are part of our multiyear plan to transition products from our 150-millimeter / 200-millimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Anticipated impact on Material Declaration

<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI ECO website .
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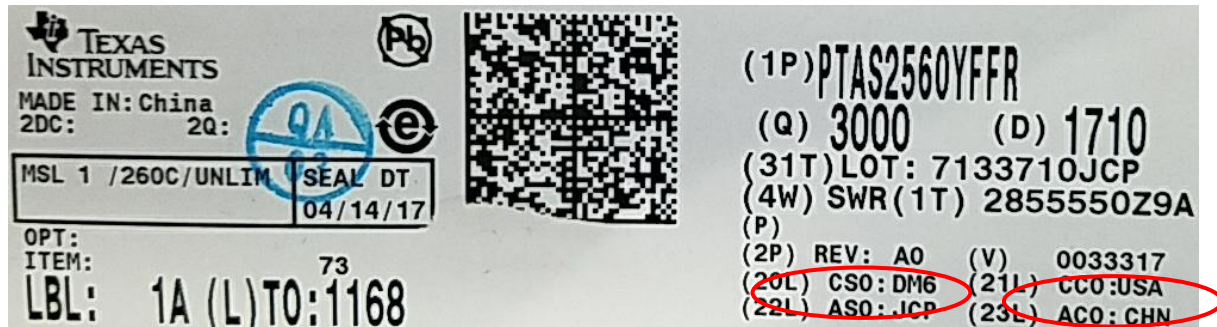
Changes to product identification resulting from this PCN:**Fab Site Information:**

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
DL-LIN	DLN	USA	Dallas
MIH08	MH8	JPN	Ibaraki

Die Rev:

Current	New
Die Rev [2P]	Die Rev [2P]
A	A

Sample product shipping label (not actual product label)

**Product Affected:****Group 1 Device list - MIH08/Process migration, Datasheet changes, & AT/BOM Updates:**

## TL16C550CFN	TL16C550CFNRG4	## TL16C550CIFNG4	TL16C550CIFNRG4
TL16C550CFNR	## TL16C550CIFN	TL16C550CIFNR	

Group 2 Device list - MIH08/Process migration & Datasheet changes:

## TL16C550CIPT	TL16C550CIPTRG4	TL16C550CPFBR	TL16C550CPTR
## TL16C550CIPTG4	## TL16C550CPFB	## TL16C550CPT	TL16C550CPTRG4
TL16C550CIPTR	TL16C550CPFB-P	## TL16C550CPTG4	

- Tube devices are included in this notification to inform customers of the change to their replacement devices (tape and reel) and to have the opportunity to request samples, but will not be subject to this change and are included in EOL notice PDN# 20210413001.3

Qualification Report

Approve Date 30-Mar-2021

Qualification Results
Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: TL16C550CIFNR	QBS Product Reference: TL16C550DIPT	QBS Process Reference: SN0406039PW	QBS Package Reference: COPCG-AMD/V-MPC/S2	QBS Package Reference: COPCG-AQQ/V-MPC/S2	QBS Package Reference: TPS76933DBVR
AC	Autoclave 121C	96 Hours	-	-	3/231/0	2/154/0	1/77/0	3/231/0
CDM	ESD - CDM	1500 V	1/3/0	-	-	-	-	-
ED	Electrical Characterization	Per Data Sheet Parameters	-	Pass	-	-	-	-
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	3/2400/0	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	2/154/0	-	3/231/0
HBM	ESD - HBM	4000V	-	1/3/0	-	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	1/77/0	-	-	-
HTOL	Life Test, 140C	649 Hours	-	-	2/154/0	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-	-	3/230/0
HTOL	Life Test, 155C	240 Hours	-	1/77/0	-	-	-	-
HTSL	High Temp Storage Bake 170C	420 Hours	-	-	-	2/154/0	1/77/0	3/231/0
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	1/45/0	-	-	-
LU	Latch Up	(Per JESD78)	-	1/5/0	-	-	-	-
SD	Surface Mount solderability	Pb Free	-	-	-	1/22/0	-	-
SD	Surface Mount solderability	Pb Free	-	-	-	1/22/0	-	-

Type	Test Name / Condition	Duration	Qual Device: TL16C550CIFNR	QBS Product Reference: TL16C550DIPT	QBS Process Reference: SN0406039PW	QBS Package Reference: COPCG-AMD/V-MPC/S2	QBS Package Reference: COPCG-AQQ/V-MPC/S2	QBS Package Reference: TPS76933DBVR
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	3/231/0	2/154/0	1/77/0	3/231/0
TS	Thermal Shock -65/150C	500 Cycles	-	1/77/0	3/231/0	-	-	-
WBP	Bond Pull	Wires	1/76/0	-	-	-	-	-
WBS	Ball Bond Shear	Wires	1/76/0	-	-	-	-	-

- QBS: Qual By Similarity

- Qual Device TL16C550CIFNR is qualified at LEVEL3-260C

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com>

Green/Pb-free Status:

Qualified Pb-Free (SMT) and Green

Qualification Report

Approve Date 17-Nov-2020

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: <u>TL16C550CIP</u> I	QBS Product Reference: <u>TL16C550DIP</u> I	QBS Product Reference: <u>TL16C550DPT</u> R	QBS Process Reference: <u>SN0406039P</u> W	QBS Package Reference: <u>SN104950PA</u> G	QBS Package Reference: <u>TLV320AIC22P</u> I
AC	Autoclave 121C	96 Hours	-	-	1/77/0	3/231/0	-	3/231/0
CDM	ESD - CDM	1500V	-	1/3/0	-	-	-	-
ED	Electrical Characterization	Per Data Sheet Parameters	Pass	-	-	-	-	-
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	-	3/2400/0	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	3/231/0	3/148/0	-
HBM	ESD - HBM	4000V	-	1/3/0	-	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	1/77/0	3/119/0	-
HTOL	Life Test, 140C	480 Hours	-	-	-	2/154/0	-	-
HTOL	Life Test, 155C	240 Hours	-	1/77/0	-	-	-	-
HTSL	High Temp Storage Bake 170C	420 Hours	-	-	1/77/0	-	-	-
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	-	1/45/0	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-	-	3/231/0
LU	Latch Up	(Per JESD78)	-	1/5/0	-	-	-	-
TC	Temperature Cycle - 65/150C	500 Cycles	-	-	1/77/0	3/231/0	-	3/231/0
TS	Thermal Shock -65/150C	500 Cycles	-	-	1/77/0	3/231/0	-	3/231/0

- QBS: Qual By Similarity

- Qual Device TL16C550CIP is qualified at LEVEL2-260C

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free (SMT) and Green

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